

**Version with markings to show changes made**

***In the Claims:***

Claims 1-11, 30-31 and 35-59 are cancelled.

New claims 60-88 are sought to be entered.

Pending claims 12, 19, 25, 32 and 33 are sought to be amended as follows:

12. (Once amended) A method for synthesizing a nucleic acid molecule comprising:  
mixing at least one enzyme with polymerase activity with one or more nucleic acid inhibitors [of claim 1] and one or more templates, wherein said one or more inhibitors each comprises a 5' portion and a 3' portion, said 3' portion comprising one or more deoxyribonucleotides or derivatives thereof and said 5' portion comprising one or more ribonucleotides or derivatives thereof; and

incubating said mixture under conditions sufficient to synthesize one or more first nucleic acid molecules complementary to all or a portion of said templates.

19. (Once amended) A method for amplifying a nucleic acid molecule comprising:  
mixing at least one nucleic acid inhibitor [of claim 1] with one or more enzymes with polymerase activity and one or more templates, wherein said inhibitor comprises a 5' portion and a 3' portion, said 3' portion comprising one or more deoxyribonucleotides or derivatives thereof and said 5' portion comprising one or more ribonucleotides or derivatives thereof; and

incubating said mixture under conditions sufficient to amplify one or more nucleic acid molecules complementary to all or a portion of said templates.

25. (Once amended) A method for sequencing a nucleic acid molecule, comprising:

mixing at least one nucleic acid molecule to be sequenced with one or more nucleic acid inhibitors [of claim 1], one or more enzymes having polymerase activity, and one or more terminating agents, wherein said one or more inhibitors each comprises a 5' portion and a 3' portion, said 3' portion comprising one or more deoxyribonucleotides or derivatives thereof and said 5' portion comprising one or more ribonucleotides or derivatives thereof;

incubating said mixture under conditions sufficient to synthesize a population of molecules complementary to all or a portion of said molecules to be sequenced; and

separating said population to determine the nucleotide sequence of all or a portion of said molecule to be sequenced.

32. (Once amended) A method for amplifying a double stranded DNA molecule, comprising:

(a) providing a first and second primer, wherein said first primer is complementary to a sequence within or at or near the 3'-termini of the first strand of said DNA molecule and said second primer is complementary to a sequence within or at or near the 3'-termini of the second strand of said DNA molecule and one or more nucleic acid inhibitors [of claim 1], wherein said one or more inhibitors each comprises a 5' portion and a 3' portion, said 3' portion comprising one or more deoxyribonucleotides or derivatives thereof and said 5' portion comprising one or more ribonucleotides or derivatives thereof, under conditions such that said inhibitors prevent or inhibit nucleic acid synthesis;

(b) hybridizing said first primer to said first strand and said second primer to said second strand to form hybridized molecules;

(c) incubating said hybridized molecules under conditions sufficient to allow synthesis of a third DNA molecule complementary to all or a portion of said first strand and a fourth DNA molecule complementary to all or a portion of said second strand;

(d) denaturing said first and third strand, and said second and fourth strands; and

(e) repeating (a) to (c) or (d) one or more times.

33. (Once amended) A method of preparing cDNA from mRNA, comprising

mixing one or more mRNA templates, one or more reverse transcriptases, and with one or more nucleic acid inhibitors [of claim 1], wherein said one or more inhibitors each comprises a 5' portion and a 3' portion, said 3' portion comprising one or more deoxyribonucleotides or derivatives thereof and said 5' portion comprising one or more ribonucleotides or derivatives thereof; and

incubating said mixture under conditions sufficient to synthesize one or more cDNA molecules complementary to all or a portion of said templates.